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FILE LAST UPDATED: 15 Apr 2002  (20020415/ED)

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=> d stat que
L1             2 SEA FILE=REGISTRY GLUCOSE/CN
L3        353216 SEA FILE=HCAPLUS L1 OR GLUCOSE OR BLOOD(W)SUGAR
L4            17 SEA FILE=HCAPLUS HAIR(W)FOLLICLE?(L)L3(L)(LEVEL? OR CONCENTRATI
                 ON? OR DETERM? OR DETN OR MEASUR?)


=> d ibib abs hitrn l4 1-17

L4   ANSWER 1 OF 17  HCAPLUS  COPYRIGHT 2002 ACS
ACCESSION NUMBER:         2001:839138  HCAPLUS
DOCUMENT NUMBER:          136:115826
TITLE:                    Lectin histochemistry of glycoconjugates in the feline
                          hair follicle and hair
AUTHOR(S):                Ishii, Maki; Tsukise, Azuma; Meyer, Wilfried
CORPORATE SOURCE:         Department of Veterinary Anatomy, College of
                          Bioresource Sciences, Nihon University, Kanagawa,
                          252-8510, Japan
SOURCE:                   Annals of Anatomy (2001), 183(5), 449-458
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CODEN: ANANEY; ISSN: 0940-9602
PUBLISHER: Urban & Fischer Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The distribution of glycoconjugate in the feline **hair follicle** and hair was studied by light and electron microscopic histochem. methods. The hair app. was found to contain considerable amts. of complex carbohydrates with different saccharide residues (.alpha.-D-mannose, .beta.-D-**glucose**, .alpha.-L-fucose, .beta.-N-acetyl-D-glucosamine). Variations of those were detected in the plasma membrane of the **hair follicle** cells during the course of their differentiation and keratinization, namely, .alpha.-D-**glucose**, .alpha.-L-fucose and .beta.-N-acetyl-D-glucosamine in the suprabulbar and bulbar regions. The reaction **level** of sialic acid residues in the plasma membrane decreased in some cell layers during the course of differentiation. The results obtained from the present study indicated that interaction between saccharide residues of neutral carbohydrates and sialyl groups during the anagen phase might contribute to cell keratinization in **hair follicles** and hairs. It is discussed whether the existence of glycogen in outer root sheath cells might enable these cells to provide other hair app. cells with energy when necessary. Moreover, it became obvious from variations in sialyl residue distribution that cell differentiation processes terminate first of all in Huxley's and Henle's layers within the suprabulbar region of the **hair follicle**, as followed by the hair cortex.

REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 17 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:145112 HCAPLUS
DOCUMENT NUMBER: 132:177744
TITLE: Method and kit for the determination of analyte concentration in blood based on detn. in non-blood sample
INVENTOR(S): Fish, Falk
PATENT ASSIGNEE(S): Israel
SOURCE: PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000011469	A1	20000302	WO 1999-IL447	19990819

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG,

CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
IL 125880 A1 20001121 IL 1998-125880 19980821
AU 9953001 A1 20000314 AU 1999-53001 19990819
EP 1105727 A1 20010613 EP 1999-938497 19990819
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
PRIORITY APPLN. INFO.: IL 1998-125880 A 19980821
WO 1999-IL447 W 19990819

AB A method is provided for detg. the **level** of an analyte in the blood of an individual based on **detn.** of the **level** of the same analyte in a non-blood sample (e.g. urine, saliva and hair) obtained from the individual. The non-blood sample contains red blood cells and the vol. of the blood in the sample together with the amt. of the analyte in the sample are the basis for calcg. the **level** of the analyte in the individual's blood. Kits for carrying out the above method are also provided. **Glucose** and Hb calibration values were obtained from testing dild. std. **glucose** and Hb solns. using a Sigma Chems. colorimetric **glucose** test kit and a Pierce PowerSignal ELISA Chemiluminescent assay. A calibration equation is derived and used in the **detn.** of the **level** of **glucose** and Hb in a **hair follicle** sample.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 17 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:55681 HCAPLUS
DOCUMENT NUMBER: 132:179138
TITLE: Activity of glucose-6-phosphate 1-dehydrogenase in hair follicles with male-pattern alopecia
AUTHOR(S): Adachi, Kuniaki; Watanabe, Yasusi; Inouye, Kuniyo
CORPORATE SOURCE: Research and Development Headquarters, Lion Corporation, Kanagawa, 256-0811, Japan
SOURCE: Bioscience, Biotechnology, and Biochemistry (1999), 63(12), 2219-2221
CODEN: BBBIEJ; ISSN: 0916-8451
PUBLISHER: Japan Society for Bioscience, Biotechnology, and Agrochemistry
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Activity of **glucose**-6-phosphate 1-dehydrogenase (G6PDH) in human **hair follicles** was **measured.** A good relation was demonstrated between the activity and the ratio of the no. of the anagen hairs to that of all the plucked hairs in the frontal-parietal region of the scalp with male-pattern alopecia. As the ratio becomes lower so that the advancing degree of alopecia is higher, the G6PDH activity becomes lower.

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 17 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:489663 HCAPLUS
DOCUMENT NUMBER: 115:89663
TITLE: Metabolic studies on isolated hair follicles: hair follicles engage in aerobic glycolysis and do not

demonstrate the glucose fatty acid cycle
AUTHOR(S): Philpott, Michael P.; Kealey, Terence
CORPORATE SOURCE: Clin. Biochem., Univ. Oxford, Headington/Oxford, CB2 2QR, UK
SOURCE: J. Invest. Dermatol. (1991), 96(6), 875-9
CODEN: JIDEAE; ISSN: 0022-202X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB It was previously shown that viable and intact rat **hair follicles** can be isolated by shearing, and in this study their fuel metab. was investigated. The **hair follicle** exhibits aerobic glycolysis; of the total **glucose** utilized by the **hair follicle**, only 10% is oxidized to CO2. Also, in the absence of **glucose**, the **hair follicle** is capable of utilizing other fuels such as palmitate and .beta.-hydroxybutyrate. However, neither palmitate or .beta.-hydroxybutyrate had any effect on the rate of **glucose** utilization or on [U-14C]**glucose** oxidn., showing that **glucose** sparing via the **glucose**-fatty acid cycle does not operate in the **hair follicle**. **Measurements** of **glucose** flux through the pentose phosphate pathway accounted for only 3% of the total **glucose** utilized by the **hair follicle**, although this value represented 32% of the total **glucose** oxidized. Both palmitate and .beta.-hydroxybutyrate inhibited **glucose** flux through the pentose phosphate pathway.

L4 ANSWER 5 OF 17 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1990:195802 HCAPLUS
DOCUMENT NUMBER: 112:195802
TITLE: Evidence for an age-correlated change in glutathione metabolism enzyme activities in human hair follicle
AUTHOR(S): Kermici, Michel; Pruche, Francis; Roguet, Roland; Prunieras, Michel
CORPORATE SOURCE: L'OREAL Res. Lab., Aulnay sous Bois, 93600, Fr.
SOURCE: Mech. Ageing Dev. (1990), 53(1), 73-84
CODEN: MAGDA3; ISSN: 0047-6374
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Glutathione peroxidase (GSH-PX), glutathione reductase (GSSG-RD), glutathione S-transferase (GSH-S-T), .gamma.-glutamyl transpeptidase (.gamma.-GT), and **glucose** 6-phosphate dehydrogenase (G6PDH) were **measured** in human **hair follicles** obtained by plucking as a source of keratinized cells. This noninvasive method was used on men and women volunteers ranging 19-102 yr old. GSSG-RD, GSH-S-T, .gamma.-GT, and G6PDH activities decreased as a function of age, whereas GSH-PX activity did not vary. Two groups were found: a 1st one from 19 to 60 yr with a large dispersion of the enzymic activities and a 2nd one corresponding to elderly people (>70 yr) with a smaller dispersion of the values. Evidently, keratinocytes possess an age-correlated enzymic detoxication response potential.

L4 ANSWER 6 OF 17 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1989:150200 HCAPLUS

DOCUMENT NUMBER: 110:150200
TITLE: The suitability of saliva for detection of glucose-6-phosphate dehydrogenase deficiency
AUTHOR(S): Beamont, A. H. G. M.; Miguel, A.; Goos, C. M. A. A.; Vermeesch-Markslag, A. M. G.; Hermans, A.; Vermorken, A. J. M.
CORPORATE SOURCE: Res. Unit Cell. Differ. Transform., Univ. Nijmegen, Nijmegen, 6525 EZ, Neth.
SOURCE: Mol. Biol. Rep. (1988), 13(2), 73-8
CODEN: MLBRBU; ISSN: 0301-4851
DOCUMENT TYPE: Journal
LANGUAGE: English

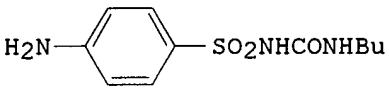
AB Saliva was investigated for its suitability as a biopsy tissue for the **detn.** of **glucose**-6-phosphate dehydrogenase deficiency. It appears that there is a significant difference between the activity of the enzyme in patients and controls. However, some controls have very low **levels**, making discrimination between patients and controls using a qual. method impossible. **Glucose**-6-phosphate dehydrogenase deficiency is a relevant clin. problem in many rural areas in developing countries. Existing methods for **detn.** of the deficiency in blood and **hair follicles** do not meet the criteria necessary for their large scale introduction in the areas of the world that are concerned by the problem. The present study shows that saliva is not a suitable alternative. Among the 3 biopsy tissues compared: blood, **hair follicles** and saliva, **hair follicles** remain most attractive since their isolation hardly involves the risk of infection. A simplified method for the detection of **glucose**-6-phosphate dehydrogenase activity in **hair follicles** that would allow health service workers in the field to det. the carrier status of pregnant women might form the basis for a future kernicterus prevention program.

L4 ANSWER 7 OF 17 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1987:46125 HCAPLUS
DOCUMENT NUMBER: 106:46125
TITLE: Phosphoglycerate kinase deficiency: biochemical studies on hair follicles
AUTHOR(S): Dijkstra, A. C.; Vermeesch-Markslag, A. M. G.; Goos, C. M. A. A.; Miguel, A.; Vermorken, A. J. M.
CORPORATE SOURCE: Res. Unit Cell. Diff. Transf., Univ. Nijmegen, Nijmegen, Neth.
SOURCE: J. Clin. Chem. Clin. Biochem. (1986), 24(11), 841-5
CODEN: JCCBDT; ISSN: 0340-076X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A fluorimetric procedure for the **detn.** of phosphoglycerate kinase (I) in single human **hair follicles** is described. Enzyme studies on different parts of **hair follicles** after dissection show that the distribution of **glucose** phosphate dehydrogenase (II) matches that of I. II can therefore be used as a ref. enzyme to compensate for differences in **hair follicle** sizes. The variation in the values found in individual **hair follicles** is improved by relating I to II activity. In areas of the world where II deficiency occurs

frequently, an autosomally inherited ref. enzyme may be preferred. It is shown that 6-phosphogluconate dehydrogenase is useful in this respect. Upon storage, a gradual drop in the activity of all 3 enzymes was obsd., but the rate of decrease was about equal; the enzyme activity ratio was, therefore, almost unaffected for a period of 1 wk. This allows the **detn.** of I even in mailed **hair follicles**.

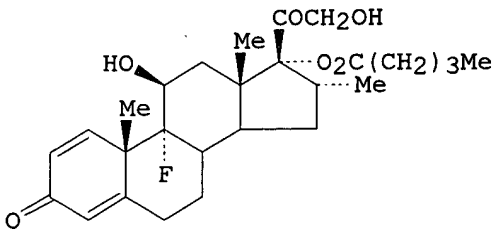
L4 ANSWER 8 OF 17 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1983:46508 HCAPLUS
DOCUMENT NUMBER: 98:46508
TITLE: Histochemical changes in the skin of guinea pigs under carbohydrate loading and treatment with bucarban
AUTHOR(S): Dikshtein, E. A.; Bukharovich, A. M.
CORPORATE SOURCE: Donetsk. Med. Inst., Donetsk, USSR
SOURCE: Vestn. Dermatol. Venerol. (1982), (9), 25-9, 1 plate
CODEN: VDVEAV; ISSN: 0042-4609
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GI



I

AB bucarban (I) [339-43-5] (1 g/70 kg/day, orally for 10 days) normalized cutaneous carbohydrate **levels** which had been increased in guinea pigs by **glucose** administration (100 g/70 kg/day, orally for 21 days). Hair root sheath disorders, possibly due to damage to the **hair follicles** induced by staphylococcal skin infection, and elevated **levels** of neutral mucopolysaccharides in the horny layer of the skin were obsd. during long-term **glucose** administration. Apparently, I may be suitable for the treatment of pyoderma.

L4 ANSWER 9 OF 17 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1982:449993 HCAPLUS
DOCUMENT NUMBER: 97:49993
TITLE: A 5-week dermal toxicity study and 5-week recovery test on dexamethasone 17-valerate in rats
AUTHOR(S): Watanabe, Mitsutoshi; Koizumi, Haruko; Tsuyuki, Shigeo; Imai, Keiko; Morishita, Hiroshi; Suzuki, Shuhzo; Nomura, Gakushi; Yanagita, Tomoji
CORPORATE SOURCE: Preclin. Res. Lab., Cent. Inst. Exp. Anim., Kawasaki, 213, Japan
SOURCE: Jitchuken Zenrinsho Kenkyuho (1982), 8(1), 35-54
CODEN: JZKEDZ; ISSN: 0385-8502
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
GI



I

AB During a 5-wk dermal application to rats, drug responses such as lymphopenia, atrophy of thymus, spleen, and adrenals as well as stomach ulcers were obsd. mainly with dexamethasone 17-valerate (I) [33755-46-3] at a dose of 0.3 mg/kg and with dexamethosone [50-02-2] (control) groups. Serum **levels** of lipids, .alpha.2- and .alpha.3-globulins, and **glucose** were elevated in these groups. Glycogen granules in the hepatocytes were slightly increased only in males. Serum **levels** of glutamate-pyruvate and glutamate-oxaloacetate transaminases and lactate dehydrogenase were increased and focal necrosis of the hepatocytes was noted. These changes were more significant in the dexamethasone group (0.05 mg/kg) than in the I 0.3 mg/kg group, and males were influenced more strongly than females. In the males of these groups, erythrocyte counts, Hb concn., and hematocrit were increased. Most of these changes were also seen in the I 0.06 mg/kg group, but to a lesser degree. The skin at the site of drug application was atrophied and the no. of **hair follicles** decreased in all groups treated with the drugs. In the lowest I group (0.012 mg/kg), there was a slight suppression of body wt. gain and atrophy of the skin and this dose was considered a noneffective dose in 5 wk. dermal application to rats. During the recovery period, the body wt. gain of the I and dexamethasone treated groups was greater than that of the control group.

L4 ANSWER 10 OF 17 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1979:185342 HCAPLUS
DOCUMENT NUMBER: 90:185342
TITLE: Use of protein blocks containing urea for minimally managed broodmares
AUTHOR(S): Godbee, Richard G.; Slade, Larry M.; Lawrence, Laurie M.
CORPORATE SOURCE: Colorado State Univ., Ft. Collins, Colo., USA
SOURCE: J. Anim. Sci. (1979), 48(3), 459-63
CODEN: JANSAG; ISSN: 0021-8812
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Mares in the last trimester of gestation were fed either 20% protein blocks contg. 2.13% urea [57-13-6] and grass hay under a system of minimal management or 13% protein grain mix and alfalfa hay under optimal management to det. the effects on the protein status of the mare and development of the fetus. The minimally managed mares consumed 0.83 kg protein/head/day and 0.05 kg urea; the hand-fed mares consumed 1.44 kg protein. The use of protein blocks contg. urea under range conditions was as effective as hand feeding protein supplements to pregnant mares under confinement conditions, as judged by comparison of **hair**

follicle measurements and the albumin-to-globulin ratios in the blood. There were no differences in blood **glucose**, globulins, total protein, or albumin-to-globulin ratios from foals of either treatment group. Blood urea-N **levels** were higher in foals from the control mares.

L4 ANSWER 11 OF 17 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1979:20330 HCAPLUS
DOCUMENT NUMBER: 90:20330
TITLE: Distribution of glucose in the pedicle skin flaps of guinea pigs
AUTHOR(S): Im, Michael J.; Hoopes, John E.
CORPORATE SOURCE: Div. Plast. Surg., Johns Hopkins Univ. Sch. Med., Baltimore, Md., USA
SOURCE: J. Surg. Res. (1978), 25(3), 269-73
CODEN: JSGRA2; ISSN: 0022-4804
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Consistency of necrosis was detd. in skin flaps created on the back of guinea pigs. The av. amt. of skin necrosis ranged from 20 to 45% of the flaps. **Glucose** distribution within the skin flaps was quantitated in the epidermis, **hair follicles**, dermis, and panniculus carnosus at various distances from the pedicle. The distal end of the flaps (which was destined to undergo necrosis) exhibited a drastic decrease in **glucose** content in all strata of skin, excluding the panniculus carnosus, whereas the proximal half of the flaps (destined to survive) displayed no alteration in tissue **glucose** content during 7 days following flap elevation. The epithelium and dermis exhibited a similar degree of magnitude for the decrease in **glucose level** in skin destined for necrosis.

L4 ANSWER 12 OF 17 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1971:527739 HCAPLUS
DOCUMENT NUMBER: 75:127739
TITLE: Phosphofructokinase (PFK) regulation of glycolysis in skin
AUTHOR(S): Kondo, Shigeo; Adachi, Kenji
CORPORATE SOURCE: Dep. Cutaneous Biol., Oregon Reg. Primate Res. Cent., Beaverton, Ore., USA
SOURCE: J. Invest. Dermatol. (1971), 57(3), 175-9
CODEN: JIDEAE
DOCUMENT TYPE: Journal
LANGUAGE: English
AB **Measurements** of the acute changes in the **levels** of ATP **glucose** 6-phosphate (I) plus fructose 6-phosphate, and fructose 1,6-diphosphate (II) in human **hair follicles** and rhesus monkey skin and its appendages after periods of ischemia showed decreased **levels** of I and ATP and an increase in II. The rapid depletion and accumulation (within 5 sec after ischemia) of the glycolytic intermediates prior to and after the phosphofructokinase step in glycolysis indicated an acute activation of this enzyme by ischemia.

L4 ANSWER 13 OF 17 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1968:474060 HCAPLUS

DOCUMENT NUMBER: 69:74060
TITLE: Enzyme activities of the epithelial outgrowth of the hair follicles in tissue culture
AUTHOR(S): Uno, H.; Adachi, K.; Hu, F.
CORPORATE SOURCE: Oregon Reg. Primate Res. Center, Beaverton, Oreg., USA
SOURCE: J. Cell Biol. (1968), 38(3), 640-3
CODEN: JCLBA3
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Highly sensitive fluorometric techniques to assay hexokinase, glucose-6-phosphate dehydrogenase, lactate dehydrogenase, isocitrate dehydrogenase, and fumarase in <1 .mu.g. quantities of epithelial outgrowth from macaque of hair follicle cultures. All the enzymic activities in the outgrowth either remained approx. the same as those in the original hair bulb cells or doubled. Microenzyme assay methods may be useful in studying cell viability in tissue-culture systems where limited groups of cells are available.

L4 ANSWER 14 OF 17 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1968:442249 HCAPLUS
DOCUMENT NUMBER: 69:42249
TITLE: Common baldness of the stumptailed macaque. II. Enzyme activities of carbohydrate metabolism in the hair follicles
AUTHOR(S): Uno, H.; Adachi, K.; Allegra, F.; Montagna, William
CORPORATE SOURCE: Oregon Reg. Primate Res. Center, USA
SOURCE: J. Invest. Dermatol. (1968), 51(1), 11-18
CODEN: JIDEAE
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Eleven enzymes related to carbohydrate, protein, and fat metabolism were assayed in **hair follicles** taken from both bald and hairy regions of the scalps of 3 adolescent and 2 adult male stumptailed macaques, as an approach to an understanding of the change of terminal to vellus follicles in the development of baldness in this species. Individual enzyme activities were **measured** fluorometrically within the linear rates of the reactions under optimal conditions. Enzymes assayed were all involved in the glycolytic pathway, pentose shunt, tricarboxylic acid cycle, transamination, and fatty acid pathways, and included: hexokinase, glyceraldehyde-3-phosphate dehydrogenase, lactate dehydrogenase, **glucose**-6-phosphate dehydrogenase, 6-phosphogluconate dehydrogenase, alanine (glutamate-pyruvate) and aspartate (glutamate-oxalacetate) transaminases, isocitrate dehydrogenase, fumarase, and .beta.-hydroxybutyryl CoA dehydrogenase. Phosphorylase activity was assayed after redn. and incubation of the sample with a **measured** sample of TPN. A histochem. method was also used to demonstrate phosphorylase activity. Glycogen was shown, using the periodic acid-Schiff reagent, with diastase-treated sections as controls. Enzyme activities in the middle portion of the external sheath and the bulb portion of both vellus and terminal anagen follicles were studied, but no characteristic enzymic differences were demonstrated in **hair follicles** of bald and hairy scalps. The enzyme activities in the vellus anagen follicles in bald scalps are comparable to those in terminal anagen follicles, indicating that a redn. in the size of

the follicle does not involve a redn. in enzyme activity. Enzyme activities in the middle portion of the external sheath of telogen follicles are less than those in anagen follicles; the bulb and dermal papilla contain highest activities. Phosphorylase activity, however, is highest in the external sheath. 22 references.

L4 ANSWER 15 OF 17 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1966:46290 HCAPLUS
DOCUMENT NUMBER: 64:46290
ORIGINAL REFERENCE NO.: 64:8711h,8712a-b
TITLE: Distribution of dehydrogenases in the skin of the rhesus monkey (Macaca mulatta)
AUTHOR(S): Im, Michael J. C.
CORPORATE SOURCE: Oregon Reg. Primate Res. Center, Beaverton
SOURCE: J. Histochem. Cytochem (1965), 13(8), 668-76
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Succinic, malic, isocitric (DPN and TPN), lactic, .alpha.-glycerophosphate, **glucose**-6-phosphate, 6-phosphogluconic, .beta.-hydroxybutyric, and glutamic dehydrogenases were **measured** in the scalp, gluteal region, back, palm, and sole. Strong dehydrogenase activity in general is restricted to metabolically active sites, such as the basal layer of the epidermis, the outer root sheath of the **hair follicles**, the hair matrix and bulb, the clear cells of the eccrine sweat glands, and the basal cells of the sweat glands. The myelinated fibers of Meissner corpuscles and the inner bulb of the Pacinian corpuscles in the palms and soles abound in all of the dehydrogenases. The enzymes are also abundant in the arrectores pilorum muscles, the endothelium of the arterioles, the fibroblasts and mast cells. 19 references.

L4 ANSWER 16 OF 17 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1964:47612 HCAPLUS
DOCUMENT NUMBER: 60:47612
ORIGINAL REFERENCE NO.: 60:8410e-g
TITLE: Quantitative histochemistry of human skin
AUTHOR(S): Hershey, Falls B.; Lewis, Charles, Jr.; Murphy, Josephine; Schiff, Thomas
CORPORATE SOURCE: Washington Univ. School of Med., St. Louis, MO
SOURCE: J. Histochem. Cytochem. (1960), 8(1), 41-9
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB Micro methods previously devised have permitted accurate sampling of various cell types in brain and other structures. Data are presented testing and validating minor modifications of these methods that are useful for the study of the human skin. This paper reports **measurement** of 5 enzymes in 5-20 .gamma. samples (wet wt.) of homogenates of human epidermis, or 0.5-5 .gamma. samples from freeze-dried sections. The activity of 4 of these enzymes do not appear to have been reported in epidermis before. Lactic dehydrogenase, malic dehydrogenase, aldolase, **glucose**-6-phosphate dehydrogenase, and acid phosphatase have been **measured** with 0.5-5 .gamma. of human epidermis, dermis, **hair follicles**, sweat glands, and sebaceous glands. The standard deviation of replicate analyses of the

same homogenate is less than 10% of the mean for all reported enzymes. Replicate homogenates of the same strip of human skin show more variance. The pH optima, the effects of certain activators, the effect of the temp. and time of incubation, and the effect of homogenate concn. on the activities of the enzymes are reported. Of the activity of malic dehydrogenase, **glucose**-6-phosphate dehydrogenase, aldolase, and acid phosphatase 75-90% is present in the supernatants after 10 min. centrifugation at 1450g. Only 30-50% of lactic dehydrogenase activity is present in the supernatants after such centrifugation. All 5 enzymes withstand freezing, drying, and storage up to 3 months at -20.degree.. Enzyme activity of these 5 enzymes in epidermis and dermis of the skin of the inguinal region and sole of the foot and in the **hair follicles** and sweat and sebaceous glands are compared and contrasted.

L4 ANSWER 17 OF 17 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1947:6383 HCAPLUS
DOCUMENT NUMBER: 41:6383
ORIGINAL REFERENCE NO.: 41:1305g-i,1306a-i,1307a
TITLE: Metabolism and permeability of normal skin
AUTHOR(S): Calvery, Herbert O.; Draize, John H.; Lang, Edwin P.
CORPORATE SOURCE: Federal Security Agency, Washington, DC
SOURCE: Physiol. Rev. (1946), 26, 495-540
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB Protein and amino acid metabolism of the corium is practically unknown. The metabolism of keratinization differs from protein metabolism of internal cells, and the products of the catabolism are not returned to the blood but are lost by exfoliation. It is generally agreed that the **glucose** content of the skin is directly related to that of the blood, and the best analyses indicate that the blood values are higher than the skin values (in 6 species studied). The skin **glucose** is freely diffusible and can be increased or decreased by different means. The data for glycogen seem more reliable; its **level** though less mobile still responds to fasting, dietary conditions, etc. The lactic acid content is twice as great in skin from well-fed as from fasted animals (42-61 mg. %). The total lipides of the skin range from 6.9 to 8.2%; total cholesterol makes up 18-23%; free cholesterol, 16-21%; and phospholipides make up 2.5-3.2% of the total lipide. The "basal" portion of the epidermis is the most active metabolically. The epidermis has the highest cholesterol and free fatty acid content. The role of vitamins A and K, of thiamine, riboflavin, nicotinic acid, pantothenic acid, ascorbic acid, biotin, and inositol is discussed. The function and compn. of sweat are described. This part of the monograph has a separate bibliography of 86 titles. The second part deals with the problem of permeability. Probably the most important factor governing skin permeability is lipide soly., or rather the distribution coeff.: lipide soly./water soly. of a substance, extreme soly. in either phase serving to limit passage of substances through the skin. Generally, decreasing ionization goes with increasing lipide soly. Heavy metals forming poorly ionizable compds. are definitely lipide-sol. and pass through the skin. Functional changes of the skin can affect its permeability. Mild keratolysis increases permeability. The effect of hyperemia is debatable but it is thought to increase absorption, perhaps through modification of permeability of the

rete cells. Various types of stimulation (mech., chem., or phys.) cause increased permeability. Different org. solvents, apart from their irritating action, increase permeability because they remove lipides from epidermal layers which constitute a natural barrier to many substances. No unanimity exists as to the ability of water to pass the skin from the outside inward, although many regard the skin of man and higher animals almost a complete barrier to the entrance of water, which may be the function of the spinosum and granulosum layers. At any rate, frog skin which lacks these layers is freely permeable to water. It is also generally believed that skin of man and higher animals is impermeable to electrolytes, because the skin behaves like a membrane with a neg. charge on the outside. It should be cation-permeable and anion-impermeable, or in general electrolyte-impermeable. However, there are exptl. results showing different degrees of permeability of the skin to I or Br, etc. All true gases, except perhaps CO, pass inward through the skin by diffusion. The diffusion of gas is influenced by temp., soly., and tension difference. With regard to absorption through the skin of true fats and of nonsaponifiable substances, views differ radically. Perhaps a general assumption is that penetration of mineral oils or petrolatum is poor; that of vegetable oils is fair to good; and that of animal fats is excellent. With the aid of wetting agents fats are said to penetrate from the base of **hair follicles** into the cutis itself, but this important observation needs further corroboration. The evidence with regard to passage of carbohydrates through the skin, either for or against, is equivocal. Under certain conditions minute amts. of protein may penetrate the skin and pass into the blood. Insulin can pass through the skin in sufficient amts. to lower the **blood sugar** but special pretreatment of the skin is necessary. Because of its extensive clinical use, the permeability of the skin to Hg has had the widest study. Its principal portal seems to be the sebaceous glands and **hair follicle** shafts but there is also evidence that it enters interstitial lymph channels of the curls. Pb oleate, but not metallic Pb, permeates the skin; also Cu penetrates as the oleate; As penetrates the skin and can be demonstrated in the urine. Vitamins pass through the skin, especially the fat-sol. A, D, and K; but the evidence of penetration of B1 and C needs to be corroborated. The sex hormones are absorbable through the skin, progesterone perhaps less easily than estrone. Generally, the absorption of the sex hormones is much improved by the use of a volatile solvent, in which case the cutaneous route may equal the subcutaneous route of administration. Sulfonamides penetrate intact skin, the ointment base having apparently an important effect. The penetration of B, considered theoretically, should be easy since it is feebly ionized and lipide sol. However, it seems to penetrate very easily only in the presence of a high alc. concn. The question of I2 absorption is rather complicated. I2 which is lipide-sol. should be able to penetrate skin, while iodides which ionize freely and are lipide-insol. should behave differently. However, KI may undergo oxidation to I2 in the skin and absorbed in the elementary form. But it must be borne in mind that KI may also react with the natural skin lipide. Esters of salicylic acid pass through the skin easily, and its keratolytic action undoubtedly promotes the transfer. Alkali salts of salicylic acid are unable to permeate the skin, being strongly ionizable and lipide insol.

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S hair(w)follicle? And (glucose or blood(w)sugar)(s)(level? Or concentration or measur? Or determ? Or detn)

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 2/AB/1     (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

11777190   21533720   PMID: 11677811
  Lectin  histochemistry of glycoconjugates in the feline hair follicle and
hair.
  Ishii M; Tsukise A; Meyer W
  Department  of Veterinary Anatomy, College of Bioresource Sciences, Nihon
University, 1866 Kameino, Fujisawa, Kanagawa 252-8510, Japan.
  Annals   of   anatomy (Germany)   Sep   2001,  183   (5)   p449-58,  ISSN
0940-9602   Journal Code: DUG
  Languages: ENGLISH
  Document type: Journal Article
  Record type: In Process
  The  distribution  of  glycoconjugate in the feline  hair  follicle  and
hair  was  studied by light and electron microscopic histochemical methods.
The  hair  apparatus  was  found to contain considerable amounts of complex
carbohydrates  with different saccharide residues (alpha-D-mannose, beta-D-
 glucose   ,  alpha-L-fucose,  beta-N-acetyl-D-glucosamine).  Variations of
those  were  detected in the plasma membrane of the  hair  follicle  cells
during  the  course  of  their  differentiation and keratinization, namely,
alph-D-  glucose  ,  alpha-L-fucose  and beta-N-acetyl-D-glucosamine in the
suprabulbar and bulbar regions. The reaction  level  of  sialic acid
residues  in  the  plasma membrane decreased in some cell layers during the
course  of  differentiation.  The  results  obtained from the present study
indicated  that  interaction  between saccharide residues of neutral
carbohydrates and sialyl groups during the anagen phase might contribute to
cell  keratinization  in  hair     follicles  and  hairs. It is discussed
whether  the  existence of glycogen in outer root sheath cells might enable
these  cells  to  provide  other  hair  apparatus  cells  with  energy when
necessary.  Moreover,  it  became obvious from variations in sialyl residue
distribution  that cell differentiation processes terminate first of all in
Huxley's  and  Henle's  layers  within the suprabulbar region of the  hair
 follicle , as followed by the hair cortex.


 2/AB/2     (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

10514760   20128240   PMID: 10664855
  Activity  of  glucose-6-phosphate  1-dehydrogenase in hair follicles with
male-pattern alopecia.
  Adachi K; Watanabe Y; Inouye K
  Research and Development Headquarters, Lion Corporation, Kanagawa, Japan.
  Bioscience, biotechnology, and biochemistry (JAPAN)   Dec 1999,  63  (12)
  p2219-21,  ISSN 0916-8451   Journal Code: BDP
  Languages: ENGLISH
  Document type: Journal Article
  Record type: Completed
  Activity  of  glucose-6-phosphate 1-dehydrogenase (G6PDH) in human  hair
 follicles   was   measured  .  A  good  relationship has been demonstrated
between  the  activity  and  the ratio of the number of the anagen hairs to
that  of  all the plucked hairs in the frontal-parietal region of the scalp
with  male-pattern  alopecia.  As  the  ratio  becomes  lower  so  that the
advancing degree of alopecia is higher, the G6PDH activity becomes lower.
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2/AB/3 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

10464865 20109404 PMID: 10645055
Phenotypic heterogeneity in a Chinese family with mitochondrial disease and A3243G mutation of mitochondrial DNA.
Thajeb P; Lee HC; Pang CY; Jeng CM; Huang SF; Wei YH
Section of Neurology, Cathay General Hospital, Taipei, Taiwan, ROC.
Zhonghua yi xue za zhi (CHINA) Jan 2000, 63 (1) p71-6, ISSN 0578-1337 Journal Code: CHQ
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The A3243G mutation of mitochondrial DNA (mtDNA) has been shown to be responsible for or associated with mitochondrial myopathy, encephalopathy, lactic acidosis, strokelike episodes (MELAS) syndrome, diabetes mellitus (DM) and several other neuromuscular diseases. We used polymerase chain reaction (PCR)-restriction fragment length polymorphism (RFLP) to identify the A3243G mtDNA mutation and an electron microscope to examine mitochondrial derangement in the muscle biopsies of a 38-year-old man suspected to have MELAS syndrome with DM. We found great variability in the clinical presentation and in the proportion of mtDNA with the A3243G mutation in the matrilineal family members of the patient. The proband had atypical MELAS syndrome, recurrent vascular headache, and DM (MELASDM), and his mother manifested chronic progressive ptosis and DM (CPPDM). Brain magnetic resonance imaging of the proband showed high signal intensity in the left temporoparieto-occipital area on T2 weighted images (T2WI). The blood lactate level ranged from 2.32 to 4.70 mmol/l, and two-hour postprandial glucose ranged from 124 mg/dl to 148 mg/dl. The blood lactate and postprandial glucose of the proband's mother were 3.15 mmol/l and 192 mg/dl, respectively. Electron microscopic examination of a muscle biopsy of the patient showed abnormal mitochondria with decreased density of cristae and membrane degeneration. No ragged-red fibers were detected in muscle upon staining with modified Gomori trichrome. The hair follicles and blood cells of the patient and his mother showed the A3243G mutation in the tRNA(Leu)(UUR) gene. The proportions of the mutant DNA in the hair follicles and blood cells of the proband were 36.8% and 35.2%, respectively, and those of the patient's mother were 28.8% and 13.9%, respectively. We conclude that the A3243G mtDNA mutation may manifest with MELASDM or CPPDM in different matrilineal members of the same family as a result of differences in random segregation of the heteroplasmic A3243G mutant mtDNA in the affected tissues of patients.

2/AB/4 (Item 4 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

10421483 20048308 PMID: 10581607
[The mutant gene "wal" is active in cells of mouse hair follicles]
Mutantnyi gen "wal" deistvuet v kletkakh volosianykh follikulov myshi.
Malinina NA; Martynova MIu; Koniukhov BV
Vavilov Institute of General Genetics, Russian Academy of Sciences, Moscow, Russia.
Ontogenez (RUSSIA) Sep-Oct 1999, 30 (5) p362-5, ISSN 0475-1450 Journal Code: OIB
Languages: RUSSIAN
Document type: Journal Article
Record type: Completed
In order to determine the place of action of the mutant gene waved alopecia (wal), we have obtained chimeric wal/wal c/c Gpi-1aa<-->+/+ C/C

Gpi-1bb animals by aggregation of eight-cellular embryos of BALB/c-wal/wal mice and CBA (+/+) mice. The presence or absence of the chimeric structure was determined from the mosaic nature of fur color and hair structure, as well as on the basis of the presence of electrophoretically distinct variants of glucosephosphate isomerase in blood. Chimeras had alternating transverse patches of different lengths and widths consisting of curly (genotype wal/wal) or straight (genotype +/+) hairs. The percentage of cells with wal/wal mutant genotype in chimeras established on the basis of glucosephosphate isomerase isozymes varied from 10 to 80%. A higher percentage of the parental wal/wal component in chimeras correlated with the number of patches having wavy hairs. Analysis of the fur pattern represented by the alternation of transverse patches of wavy or straight hairs in chimeric wal/wal (+/+ mice has shown that mutant gene wal acts in ectodermal cells of hair follicles .

2/AB/5 (Item 5 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

08444502 95074492 PMID: 7983369
Primary trigeminal afferent neuron of the cat: I. Studies on membrane-bound enzyme histochemistry.
Lazarov N
Department of Anatomy, Histology and Embryology, Medical University, Zagora, Bulgaria.
Journal fur Hirnforschung (GERMANY) 1994, 35 (3) p355-71, ISSN 0021-8359 Journal Code: ID3
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The localization of some membrane-associated enzymes such as alkaline phosphatase, 5'-nucleotidase, glucose -6-phosphatase, Na+,K(+)-adenosine triphosphatase, adenylate cyclase and guanylate cyclase in the Merkel cell-axon complexes, trigeminal ganglia and the principal trigeminal sensory nucleus of the cat was determined at light and electron microscopic level using cytochemical techniques. In the sinus hair follicles (vibrissae), the reaction end product marking alkaline phosphatase and adenosine triphosphatase activities was visualized on the axons running through external follicle epithelium and the 5'-nucleotidase, adenylate- and guanylate cyclase positive reaction was seen to stain the plasma membranes of Merkel cells. In the trigeminal ganglia, the strongest alkaline phosphatase and adenosine triphosphatase activities showed the corresponding areas between the ganglion and satellite cells. 5'-nucleotidase activity was more intense on the neurilemmas and the surrounding glial plasma membranes. In the principle sensory trigeminal nucleus, the central neurons exhibited an intense alkaline phosphatase, 5'-nucleotidase and adenosine triphosphatase activities and much smaller amount of reaction product for adenylate cyclase and guanylate cyclase was observed. In conclusion, membrane-bound enzymes could be histo- and cytochemically demonstrated in all components of primary trigeminal afferent units. Our results have confirmed that the receptor function and the nerve impulses conductance need an intensive molecular and cation exchange, and energy supply.

2/AB/6 (Item 6 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

08102340 93364239 PMID: 8358273
[The effects of the white gene on coat pigmentation in mouse aggregation chimeras]

Izuchenie effektov gena white na pigmentatsiiu volosianogo pokrova u agregatsionnykh khimer myshi.
Koniukhov BV; Kindiakov BN; Malinina NA
Izvestiia Akademii nauk. Seriia biologicheskaia (RUSSIA) Jul-Aug 1993, (4) p500-6, Journal Code: BNE
Languages: RUSSIAN
Document type: Journal Article
Record type: Completed
We obtained eight Mi(wh)/+<==>Mi(wh)/Mi(wh) chimeras using embryos of two mutant substrains of Mi(wh)/Mi(wh) mice with different isozymes Gpi-1(aa) and Gpi-1(bb). Chimerism was determined by the mosaicism of retinal pigment epithelium and electrophoretically different variants of glucose phosphate isomerase. The patterns of coat pigmentation in all chimeras were similar to those in Mi(wh)/+ heterozygotes. Despite the high proportion of the parental Mi(wh)/Mi(wh) component in three chimeras, the phenotype of their coat pigmentation was also similar with that of Mi(wh)/+ mice. The chimeras lacked mosaic-pigmented hairs. These data suggest presence only one cell population of Mi(wh)/+ melanoblasts that actively proliferate and colonize almost all forming hair follicles . Hence, the proliferation and/or differentiation of Mi(wh)/+ melanoblasts is not suppressed in the Mi(wh)/Mi(wh) dermis and epidermis. The Mi(wh) gene acting in melanoblasts leads to the block of their proliferation at the early stages of development in the homozygotes.

2/AB/7 (Item 7 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

07638194 92369831 PMID: 1504575
The ontogenesis of skin and organ characteristics in the Syrian golden hamster. III. Ontogenetic and intraspecific allometry for strain and sex as well as body weight- and age-dependent correlations.
Militzer K; Buttner D; Moog E
Central Animal Laboratory, University of Essen, Germany.
Experimental and toxicologic pathology (GERMANY) Jun 1992, 44 (3) p113-24, ISSN 0940-2993 Journal Code: BIR
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The allometric relations, i.e. bodily characteristics, body weight-relationships as well as age-dependent organ and biochemical data were studied in a total of 464 golden hamsters of both sexes of an acromelanic white inbred and agouti coloured outbred strain. In the 3 age sections studied (I = day 1-20, II = day 25-100, III = day 110-365) the body weight- and age-dependent relations were found to be altered between and within the various characteristics. The body weight correlations predominated in the case of organ weights and skin muscle thickness. By contrast, age correlations were seen above all in the skin compartments with cyclic growth, hair follicle density and reticular thickness in the age sections I and II. Papillary thickness showed a positive relation to body weight and age after weaning, but no long-term relations were observed with both plasma insulin and blood glucose levels . The allometric behaviour of skin compartments could be explained particularly by thermoregulatory and "geometric" similarities and that of the organs by metabolic and other similarities. Most sex and strain differences in the absolute data, except for the kidney and adrenal weights, disappeared on allometric analysis and were thus mainly due to differences in body weight. For long-term toxicological investigations, the documentation of age and body weight as well as the determination of ontogenetic allometry is a "must".

2/AB/8 (Item 8 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

07463407 92064852 PMID: 1955613
[The site of the action of the angora-Y gene and its interaction with the fuzzy-Y gene in the mouse]
Izuchenie mesta deistviia gena angora-Y i ego vzaimodeistviia s genom fuzzy-Y u myshi.
Berdaliev AS; Koniukhov BV
Izvestiia Akademii nauk SSSR. Seriia biologicheskaia (USSR) May-Jun 1991, (3) p352-60, ISSN 0002-3329 Journal Code: H0D
Languages: RUSSIAN
Document type: Journal Article
Record type: Completed
The site of action of the goY mutant gene was determined in the aggregation chimaeras C57BL-goY/goY----DBA (+/+). Chimerism was detected by mosaicism of coat pigmentation and electrophoretic pattern of glucose phosphate isomerase. In 28-day-old chimaeras the regions of light-brown coat alternated black coat, stripes of short hairs alternated those of long hairs. These stripes of different length and width extended from spine in lateral-ventral direction. The hairs plucked from long hairs stripes had a similar length that those of goY/goY mice of same age, but the hairs plucked from short hair stripes corresponded to the hair length of +/+ mice. These data show that the goY gene acts in epidermal cells of hair follicles and its expression is autonomous. It has been established that in double homozygotes goY/goYfzY/fzY both mutant genes are expressed: the considerable increase of hair length as compared to norm--the effect of the goY gene and curly coat--the effect of the fzY gene. In goY/goYfzY/fzY mice during the formation of G1 guard hairs the incomplete expression of the goY gene is observed that is due to the suppression of hair growth by the fzY mutant gene. The fzY gene does not suppress the growth of G2 hairs and therefore the full expression of the goY gene occurs in goY/goYfzY/fzY adult mice.

2/AB/9 (Item 9 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

06992847 91258867 PMID: 2045676
Metabolic studies on isolated hair follicles: hair follicles engage in aerobic glycolysis and do not demonstrate the glucose fatty acid cycle.
Philpott MP; Kealey T
Nuffield Department of Clinical Biochemistry, University of Oxford, John Radcliffe Hospital, Headington, U.K.
Journal of investigative dermatology (UNITED STATES) Jun 1991, 96 (6) p875-9, ISSN 0022-202X Journal Code: IHZ
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The matrix cells of the hair follicle have one of the highest rates of cell division in the mammalian body, but their fuel metabolism is poorly understood, due mainly to the difficulty in obtaining viable intact follicles from the skin. We have previously shown that viable and intact rat hair follicles can be isolated by shearing, and in this study we now report on their fuel metabolism. In this study we have shown that the hair follicle exhibits aerobic glycolysis, in that of the total glucose utilized by the hair follicle , only 10% is oxidized to CO2. We have also shown that, in the absence of glucose , the hair follicle is capable of utilizing other fuels such as palmitate and beta-hydroxybutyrate. However, neither palmitate or beta-hydroxybutyrate

had any effect on the rate of glucose utilization or on [U-14C] glucose oxidation, showing that glucose sparing via the glucose fatty acid cycle does not operate in the hair follicle . Measurements of glucose flux through the pentose phosphate pathway accounted for only 3% of the total glucose utilized by the hair follicle , although this value represented 32% of the total glucose oxidized. Both palmitate and beta-hydroxybutyrate inhibited glucose flux through the pentose phosphate pathway.

2/AB/10 (Item 10 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

06954285 90219983 PMID: 1969979
Evidence for an age-correlated change in glutathione metabolism enzyme activities in human hair follicle.
Kermici M; Pruche F; Roguet R; Prunieras M
L'OREAL Research Laboratory, Aulnay sous bois, France.
Mechanisms of ageing and development (SWITZERLAND) Mar 31 1990, 53 (1) p73-84, ISSN 0047-6374 Journal Code: LMJ
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
In this investigation, glutathione peroxidase (GSH-PX), glutathione reductase (GSSG-RD), glutathione-S-transferase (GSH-S-T), gamma-glutamyl transpeptidase (gamma-GT) and glucose-6-phosphate dehydrogenase (G6PDH) were measured in human hair follicle obtained by plucking as source of keratinized cells. This non-invasive method was used on 27 men and women volunteers ranging from 19 to 102 years. Our results show that GSSG-RD, GSH-S-T, gamma-GT and G6PDH activities decrease as a function of age, whereas GSH-PX activity does not vary. We discriminated 2 groups: a first one from 19 to 60 years with a large dispersion of the enzymatic activities and a second one corresponding to elderly people (up to 70) with a smaller dispersion of the values. This study suggests the keratinocytes possess an age-correlated enzymatic detoxification response potential.

2/AB/11 (Item 11 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

06510646 89127165 PMID: 3221843
The suitability of saliva for detection of glucose-6-phosphate dehydrogenase deficiency.
Beamont AH; Miguel A; Goos CM; Vermeesch-Markslag AM; Hermans A; Vermorken AJ
Research Unit for Cellular Differentiation and Transformation, University of Nijmegen, The Netherlands.
Molecular biology reports (NETHERLANDS) 1988, 13 (2) p73-8, ISSN 0301-4851 Journal Code: NGW
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Saliva was investigated for its suitability as a biopsy tissue for the determination of glucose -6-phosphate dehydrogenase deficiency. It appears that there is a significant difference between the activity of the enzyme in patients and controls. However, some controls have very low values making discrimination between patients and controls using a qualitative method impossible. Glucose -6-phosphate dehydrogenase deficiency is a relevant clinical problem in many rural areas in developing countries. Existing methods for determination of the deficiency in blood and hair follicles do not meet the criteria necessary for their large

scale introduction in the areas of the world that are concerned by the problem. The present study shows that saliva is not a suitable alternative. Between the three biopsy tissues compared: blood, hair follicles and saliva, hair follicles remain most attractive since their isolation hardly involves the risk of infection. A simplified method for the detection of glucose -6-phosphate dehydrogenase activity in hair follicles that would allow health service workers in the field to determine the carrier status of pregnant women might form the basis for a future kernicterus prevention programme.

2/AB/12 (Item 12 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

06277193 87111366 PMID: 3806012
Phosphoglycerate kinase deficiency: biochemical studies on hair follicles.
Dijkstra AC; Vermeesch-Markslag AM; Goos CM; Miguel A; Vermorken AJ
Journal of clinical chemistry and clinical biochemistry. Zeitschrift fur klinische Chemie und klinische Biochemie (GERMANY, WEST) Nov 1986, 24 (11) p841-5, ISSN 0340-076X Journal Code: I3U
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
A fluorimetric procedure for the determination of phosphoglycerate kinase in single human hair follicles is described. Enzyme studies on different parts of hair follicles after dissection show that the distribution of glucose -6-phosphate dehydrogenase matches that of phosphoglycerate kinase. Glucose -6-phosphate dehydrogenase can therefore be used as a reference enzyme to compensate for differences in hair follicle sizes. It was shown that the variation in the values found in individual hair follicles is improved by relating phosphoglycerate kinase to glucose -6-phosphate dehydrogenase activity. In areas of the world where glucose -6-phosphate dehydrogenase deficiency occurs frequently, an autosomally inherited reference enzyme may be preferred. It is shown that 6-phosphogluconate dehydrogenase is useful in this respect. Upon storage a gradual drop in the activity of all three enzymes was observed, but the rate of decrease was about equal: the enzyme activity ratio was, therefore, almost unaffected for a period of one week. This allows the determination of phosphoglycerate kinase even in mailed hair follicles .

2/AB/13 (Item 13 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

05909120 88122101 PMID: 3123915
Determination of glycogen and enzymes of glycogen metabolism in human hair follicles.
Goos CM; Beaumont AH; Vermeesch-Markslag AM; van der Stappen JW; Sultan C ; Vermorken AJ
Research Unit for Cellular Differentiation and Transformation, University of Nijmegen, The Netherlands.
Molecular biology reports (NETHERLANDS) 1987, 12 (4) p259-64, ISSN 0301-4851 Journal Code: NGW
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The skin epithelium and its organelles use glycogen as well as glucose as source of energy. Therefore the characterisation of glycogen metabolism and the enzymes involved is important in the study of mechanisms regulating the

normal or abnormal differentiation of skin organelles such as sebaceous glands and hair follicles . The present paper describes fluorimetric methods for the determination of glycogen and for the measurements of phosphorylase and phosphorylase kinase activity in one and the same lysate of minute tissue samples. The methods were tested for their suitability on freshly isolated human hair follicles and cultured hair follicle cells. The possible use of these techniques for studies on the pathophysiology of acne and hirsutism is discussed.

2/AB/14 (Item 14 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

02429708 77105489 PMID: 835135
Histochemical quantification of glucose-6-phosphate dehydrogenase activity in human hair follicles.
Sasai Y; Nakano S; Ando K
Tohoku journal of experimental medicine (JAPAN) Jan 1977, 121 (1) p1-12, ISSN 0040-8727 Journal Code: VTF
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Glucose-6-phosphate dehydrogenase activity was studied in hair follicles from both the bald and hairy regions of the scalp of 5 patients with male pattern alopecia by the application of the method of Lineweaver-Burk to the histochemistry and by the fluorometric method of Lowry. In vitro experiment showed that the incubation time necessary for yielding a certain amount of formazan is related to the amount of enzyme present. In the case of section experiment, the time required for the first appearance of formazan deposition in the tissue at various substrate concentrations was plotted against the reciprocal of the substrate concentration . The data obtained by this method seem to be consistent with the data by the fluorometric method.

2/AB/15 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10928846 BIOSIS NO.: 199799549991
Keratitis, ichthyosis and deafness (KID) syndrome.
AUTHOR: Alli Nuran; Gungor Emel(a)
AUTHOR ADDRESS: (a)Eskisehir Yolu, Konutkent-2 Sitesi Hayrabolu, Cad., A-8 Blo, No:46, 06530 Ankara**Turkey
JOURNAL: International Journal of Dermatology 36 (1):p37-39 1997
ISSN: 0011-9059
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The ichthyosiform skin disorders are a large group of genodermatoses that can be classified by their mode of inheritance, clinical appearance, histopathology, and associated symptoms. A rare disorder of ichthyosiform erythroderma with deafness and vascularizing keratitis was first described by Burns in 1915. In subsequent reports, a number of patients with strikingly similar disorders were described using different terminology In 1981, Skinner at al. proposed the name keratitis, ichthyosis, and deafness (KID) syndrome for this entity In this study the patient was a 17-year-old woman. She had been born after an uncomplicated pregnancy, labor, and delivery. Her parents were first cousins. There was no family history of this disorder and her three sisters were normal. At birth, erythematous, dry, and scaly skin lesions

had been observed all over the body and cutaneous lesions worsened progressively. When she was 1.5 years old, her parents noticed a grayish-white appearance of the cornea. Hearing loss was recognized at approximately 3 years of age. The patient had been suffering from grand mal epilepsy for 6 years. On examination, her skin appeared universally ichthyotic with a red hue, especially on the face (Fig. 1) and extremities. Chronic cheilitis and perleche were present. The palms and soles were hyperkeratotic (Fig. 2). The scalp hair and eyebrows were sparse, and eyelashes and axillary and pubic hair were totally absent. The nails were thickened and dystrophic. On her right leg, an extensive area (15 times 25 cm) of the skin was erythematous, odematous, and ulcerated. Her teeth were abnormally spaced and both sides of the lower premolars and molars were absent. Her mental development was normal. Ophthalmologic examination disclosed bilateral keratoconjunctivitis with extensive vascularization of the corneal epithelium. Visual acuity was at the level of counting fingers at 1 m distance on the right and at 2 m distance at the left. Audiometric examination demonstrated profound neurosensory deafness in both ears. On admission, complete blood cell count, urinalysis, serum electrolytes, alanine aminotransferase (ALT), aspartate aminotransferase (AST), alkaline phosphatase, lactate dehydrogenase, creatine kinase, glucose , cholesterol, triglycerides, total protein, albumin, bilirubin, serum urea nitrogen, uric acid, and creatinine were normal and VDRL was negative. Blood zinc and vitamin A levels were also normal. Pseudomonas and proteus were isolated from her leg lesion and the erythrocyte sedimentation rate was 35 mm/h. The chest roentgenogram and an electrocardiogram were normal. Her electroencephalogram showed a paroxysmal disorder whose cerebral bioelectric activity probably emerged from subcortical structures. Computerized tomography of the brain showed no abnormality. Light microscopic examination of hematoxylin and eosin stained tissue sections of a biopsy specimen obtained from the abdomen revealed hyperkeratosis, papillomatosis, and irregular acanthosis There was elongation of dermal papillae and the epithelium between them was acanthotic; keratotic material was seen between these papillae. Superficial perivascular lymphohistiocytic infiltrate was present. The eccrine sweat glands and hair follicles were diminished. The periodic acid-Schiff (PAS) stain did not reveal any abnormal deposits of glycogen.

1997

2/AB/16 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

09304255 BIOSIS NO.: 199497312625
A study of the gene white effects on the coat pigmentation in mouse aggregation chimeras.
AUTHOR: Konyukhov B V; Kindyakov B N; Malinina N A
AUTHOR ADDRESS: N.I. Vavilov Inst. Gen. Genet., Acad. Sci. Russ., Moscow** Russia
JOURNAL: Izvestiya Akademii Nauk Seriya Biologicheskaya (Moscow) 0 (4):p 500-506 1993
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: Russian; Non-English
SUMMARY LANGUAGE: Russian; English

ABSTRACT: We obtained eight Mi-wh/+ tautm Mi-wh/Mi-wh chimeras using embryos of two mutant substrains of Mi-wh/Mi-wh mice with different isozymes Gpi-1-aa and Gpi-1-bb. Chimerism was determined by the

mosaicism of retinal pigment epithelium and electrophoretically different variants of glucose phosphate isomerase. The patterns of coat pigmentation in all chimeras were similar to those in Mi-wh/+ heterozygotes. Despite the high proportion of the parental Mi-wh/Mi-wh component in three chimeras, the phenotype of their coat pigmentation was also similar with that of Mi-wh/+ mice. The chimeras lacked mosaic-pigmented hairs. These data suggest presence only one cell population of Mi-wh/+ melanoblasts that actively proliferate and colonize almost all forming hair follicles . Hence, the proliferation and/or differentiation of Mi-wh/+ melanoblasts is not suppressed in the Mi-wh/Mi-wh dermis and epidermis. The Mi-wh gene acting in melanoblasts leads to the block of their proliferation at the early stages of development in the homozygotes.

1993

2/AB/17 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

07864607 BIOSIS NO.: 000092123973
STUDY OF THE ANGORA-Y GENE ACTION AND ITS INTERACTION WITH THE FUZZY-Y GENE IN THE MOUSE
AUTHOR: BERDALIEV A S; KONYUKHOV B V
AUTHOR ADDRESS: N.I. VAVILOV INST. GEN. GENET., ACAD. SCI. USSR, MOSCOW, USSR.
JOURNAL: IZV AKAD NAUK SSSR SER BIOL 0 (3). 1991. 352-360. 1991
FULL JOURNAL NAME: Izvestiya Akademii Nauk Sssr Seriya Biologicheskaya
CODEN: IANBA
RECORD TYPE: Abstract
LANGUAGE: RUSSIAN

ABSTRACT: The site of action of the goY mutant, gene was determined in the aggregation chimaeras C57BL-goY/goY .tautm. DBA (+/+). Chimaerism was detected by mosaicism of coat pigmentation and electrophoretic pattern of glucose phosphate isomerase. In 28-day-old chimaeras the regions of light-brown coat alternated black coat, stripes of short hairs alternated those of long hairs. These stripes of different length and width extended from spine in lateral-ventral direction. The hairs plucked from long hairs stripes had a similar length that those of goY/goY mice of same age, but the hairs plucked from short hair stripes corresponded to the hair length of +/+ mice. These data show that the goY gene acts in epidermal cells of hair follicles and its expression is autonomous. It has been established that in double homozygotes goY/goY/fzY/fzY both mutant genes are expressed: the considerable increase of hair length as compared to norm.sbd.the effect of the goY gene and curly coat.sbd.the effect of the fzY gene. In goY/goY/fzY/fzY mice during the formation of G1 quard hairs the incomplete expression of the goY gene is observed that is due to the suppression of hair growth by the fzY mutant gene. The fzY gene does not suppress the growth of G2 hairs and therefore the full expression of the goY gene occurs in goY/goY/fzY/fzY adult mice.

1991

2/AB/18 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

03642618 BIOSIS NO.: 000074058195

A 5 WEEK DERMAL TOXICITY STUDY AND 5 WEEK RECOVERY TEST ON DEXAMETHASONE 17 VALERATE IN RATS
AUTHOR: WATANABE M; KOIZUMI H; TSUYUKI S; IMAI K; MORISHITA H; SUZUKI S; NOMURA G; YANAGITA T
AUTHOR ADDRESS: DEP. EXP. PATHOL., PRECLINICAL RES. LAB., CENTRAL INST. EXP. ANIM., 1433 NOGAWA, TAKATSU, KAWASAKI 213, JPN.
JOURNAL: CIEA (CENT INST EXP ANIM) PRECLIN REP 8 (1). 1982. 35-54. 1982
FULL JOURNAL NAME: CIEA (Central Institute for Experimental Animals) Preclinical Reports
CODEN: JZKED
RECORD TYPE: Abstract
LANGUAGE: JAPANESE

ABSTRACT: Subacute dermal toxicity of dexamethasone 17-valerate (DV-17) was studied at daily doses of 0.012, 0.06 and 0.3 mg/kg in rats. Dexamethasone 0.05 mg/kg (equivalent to 0.06 mg/kg of DV-17) was used as an active control drug. The drugs were applied daily for 5 wk in rats to the skin of the back which was shaved bald twice a week. A recovery test was conducted in the DV-17 0.06 and 0.3 mg/kg groups and the dexamethasone group in which the animals were kept untreated for 5 wk following the termination of drug application. Although very slight in males and females of the DV-17 0.012-mg/kg and females of the DV-17 0.06-mg/kg group, the suppression of body weight gain in males of DV-17 0.06-mg/kg group and males and females of DV-17 0.3-mg/kg and dexamethasone groups was strong. No animal died throughout the administration and recovery periods. Such drug influences as lymphopenia, of thymic, splenic and adrenal atrophy and stomach ulcers were observed mainly in the DV-17 0.3-mg/kg and dexamethasone groups. The serum levels of lipids, .alpha.2 and .alpha.3-globulin and glucose were elevated in these groups. Glycogen granules in the hepatocytes were slightly increased only in males. The serum levels of GPT [glutamic pyruvic transaminase], GOT [glutamic oxalacetic transaminase] and LDH [lactate dehydrogenase] were also raised while focal necrosis of the hepatocytes was noted. These changes were more significant in the dexamethasone group (0.05 mg/kg) than in the DV-17 0.3-mg/kg group, and males were influenced more strongly than females. In the males of these groups, erythrocyte counts, Hb concentration and hematocrit were increased. Most of the changes described above were also seen in the DV-17 0.06-mg/kg group, but they were less significant and lower in their incidence. The skin at the site of drug application was atrophied and the number of hair follicles decreased in all groups treated with the drugs. In the lowest dosed group (0.012 mg/kg), the influence of DV-17 application was limited to the slight suppression of body weight gain and atrophy of the skin, and this dose was considered to be very close to a non-effective dose in 5-wk dermal application to rats. During the recovery period, the body weight gain of the DV-17 and dexamethasone-treated groups was greater than that of the control group. The average body weight in the DV-17 0.06-mg/kg group became similar to that in the control group by the end of the recovery period, whereas the body weights of the DV-17 0.3-mg/kg and dexamethasone groups were still smaller than that of the control group.

1982

2/AB/19 (Item 5 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

02728332 BIOSIS NO.: 000068038930
USE OF PROTEIN BLOCKS CONTAINING UREA FOR MINIMALLY MANAGED BROOD MARES

AUTHOR: GODBEE R G; SLADE L M; LAWRENCE L M
AUTHOR ADDRESS: DEP. ANIM. SCI., CLEMSON UNIV., CLEMSON, S.C. 29631, USA.
JOURNAL: J ANIM SCI 48 (3). 1979. 459-463. 1979
FULL JOURNAL NAME: Journal of Animal Science
CODEN: JANSA
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Mares in the last trimester of gestation were fed either 20% protein blocks containing 2.13% urea and grass hay under a system of minimal management or 13% protein grain mix and alfalfa hay under optimal management to determine the effects on the protein status of the mare and development of the fetus. The minimally managed mares consumed .83 kg protein per head per day and .05 kg urea; the hand fed mares consumed 1.44 kg protein. The use of protein blocks containing urea under range conditions is possibly as effective as hand feeding protein supplements to pregnant mares under confinement conditions. This conclusion is based upon comparison of hair follicle measurements and the albumin to globulin ratios in the blood. Hair follicle bulb widths were significantly ($P < .05$) larger for mares fed the protein blocks containing urea than for the control mares. The hair bulb lengths and bulb neck widths (shaft diameter) were largest in the protein block fed mares (4.75 and .94 vs. 4.68 and .60 mm, respectively). The albumin to globulin ratios in the blood of protein block fed mares were also greater (.43 vs. .32) than those of the control mares. There were no significant differences in blood glucose , globulins, total protein or albumin to globulin ratios from foals of either treatment group. Blood urea N levels were significantly ($P < .10$) higher in foals from the control mares.

1979

2/AB/20 (Item 6 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

02659929 BIOSIS NO.: 000067047995
DISTRIBUTION OF GLUCOSE IN THE PEDICLE SKIN FLAPS OF GUINEA-PIGS
AUTHOR: IM M J; HOOPES J E
AUTHOR ADDRESS: DIV. PLAST. SURG., JOHNS HOPKINS UNIV. SCH. MED., BALTIMORE, MD. 21205, USA.
JOURNAL: J SURG RES 25 (3). 1978. 269-273. 1978
FULL JOURNAL NAME: Journal of Surgical Research
CODEN: JSGRA
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Consistency of necrosis was determined in skin flaps created on the back of guinea pigs. The average amount of skin necrosis ranged from 20-45% of the flaps. Glucose distribution within the skin flaps was quantitated in the epidermis, hair follicles , dermis and panniculus carnosus at various distances from the pedicle. The distal end of the flaps exhibited a drastic decrease in glucose content in all strata of skin, excluding the panniculus carnosus, while the proximal half of the flaps displayed no significant alteration in tissue glucose content during 7 days following flap elevation. The epithelium and dermis exhibited a similar degree of magnitude for the decrease in glucose level in association with skin necrosis.

1978

2/AB/21 (Item 7 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

02111411 BIOSIS NO.: 000063026404
HAIR ROOT VS RED CELL INDIVIDUAL PHENOTYPE IN SARDINIAN HETERO ZYGOTES FOR GLUCOSE 6 PHOSPHATE DEHYDROGENASE DEFICIENCY MEDITERRANEAN TYPE
AUTHOR: ROMEO G; RINALDI A; URBANO F; FILIPPI G
JOURNAL: AM J HUM GENET 28 (5). 1976 506-513. 1976
FULL JOURNAL NAME: American Journal of Human Genetics
CODEN: AJHGA
RECORD TYPE: Abstract

ABSTRACT: G6PD [glucose -6-phosphate dehydrogenase] activity was assayed in 20 Sardinian heterozygotes for G6PD deficiency and related to that of LDH [lactate dehydrogenase] and MDH [malate dehydrogenase]. One of these heterozygotes showed a deficient phenotype in all hair follicles , while the remaining 19 had different proportions of deficient, intermediate, and normal follicles. Because of the broad fiducial limits at the 5% level and because of some developmental considerations, this value cannot be interpreted as indicative of the number of primordial cells for scalp epidermis at the time of X-chromosome inactivation, as previously stated. The assay of single hair follicles is, however, a very valuable tool for establishing the role of cell selection in the same or in a different tissue, like peripheral blood.

1976

2/AB/22 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

01846624 Genuine Article#: JF465 Number of References: 37
Title: THE ONTOGENY OF SKIN AND ORGAN CHARACTERISTICS IN THE SYRIAN GOLDEN-HAMSTER .3. ONTOGENIC AND INTRASPECIFIC ALLOMETRY FOR STRAIN AND SEX AS WELL AS BODY WEIGHT-DEPENDENT AND AGE-DEPENDENT CORRELATIONS (Abstract Available)
Author(s): MILITZER K; BUTTNER D; MOOG E
Corporate Source: UNIV ESSEN KLINIKUM,ZENT TIERLAB,HUFELANDSTR 55/W-4300 ESSEN 1//GERMANY/; UNIV ESSEN GESAMTHSCH,CENT ANIM LAB/W-4300 ESSEN 1//GERMANY/
Journal: EXPERIMENTAL AND TOXICOLOGIC PATHOLOGY, 1992, V44, N3 (JUN), P 113-124
Language: ENGLISH Document Type: ARTICLE
Abstract: The allometric relations, i.e. bodily characteristics, body weight-relationships as well as age-dependent organ and biochemical data were studied in a total of 464 golden hamsters of both sexes of an acromelanic white inbred and agouti coloured outbred strain. In the 3 age sections studied (I = day 1 - 20, II = day 25 - 100, III = day 110 - 365) the body weight- and age-dependent relations were found to be altered between and within the various characteristics. The body weight correlations predominated in thc case of organ weights and skin muscle thickness. By contrast, age correlations were seen above all in the skin compartments with cyclic growth. hair follicle density and reticular thickness in the age sections I and II. Papillary thickness showed a positive relation to body weight and age after weaning. but no long-term relations were observed with both plasma insulin and blood glucose levels .

The allometric behaviour of skin compartments could be explained particularly by thermoregulatory and "geometric" similarities and that of the organs by metabolic and other similarities.

Most sex and strain differences in the absolute data, except for the kidney and adrenal weights, disappeared on allometric analysis and were thus mainly due to differences in body weight.

For long-term toxicological investigations, the documentation of age and body weight as well as the determination of ontogenetic allometry is a "must".

2/AB/23 (Item 1 from file: 50)
DIALOG(R)File 50:CAB Abstracts

01467312 CAB Accession Number: 842241716
Pituitary dwarfism in the German Shepherd dog with particular reference to diagnosis.
Original Title: Beitrag zum hypophysarbedingten Zwergwuchs beim Deutschen Schaferhund unter spezieller Berucksichtigung diagnostischer Aspekte.
Zanesco, S.; Schawalder, P.; Zapf, J.; Girard, J.; Tscharner, C. von; Eigenmann, J. E.
Klinik Kleine Haustiere, Langgass Strasse 124, CH-3012 Bern, Switzerland.
Kleintierpraxis vol. 29 (1): p.3-8, 11-14
Publication Year: 1984
ISSN: 0023-2076 --
Language: German Summary Language: english; french; italian
Document Type: Journal article
Two affected German Shepherd puppies with retarded growth and bilateral alopecia underwent endocrinological tests. Reduced serum total proteins were found in the female puppy and a high cholesterol value in the male. Both had depressed T4 and T3 values, which were restored by thyroid stimulating (but not by thyroid releasing) hormone. In both animals a normal increase of cortisol followed the i/m injection of corticotrophin. The metyrapone test reduced cortisol below measurable limits with considerable increase of ACTH and compound S. Clomidine failed to stimulate growth hormone activity. Insulin-like growth factors I and II showed values about 10 and 2 times lower than the means of five controls. An injection of 0.25 IU/kg insulin induced in one animal a protracted hypoglycaemia while, in the other, glucose levels returned to normal after one hour. Skeletal growth was retarded but ossification normal. Skin histology showed hyperkeratosis, excessive pigmentation, and hair follicles full of keratin. Sebaceous and sweat glands were atrophic but dermal elastin appeared normal. The results suggested a secondary hypothyroid condition. 44 ref.

2/AB/24 (Item 2 from file: 50)
DIALOG(R)File 50:CAB Abstracts

00909416 CAB Accession Number: 791488326
Range blocks with urea for broodmares increase the nutritional value of pasture feeding.
Godbee, R. G.; Slade, L. M.
Dep. Animal Science, Clemson Univ., Clemson, SC, USA.

Feedstuffs, USA vol. 51 (16): p.34-35
Publication Year: 1979 --
Language: English
Document Type: Journal article

Mares in late pregnancy on pasture in South Carolina were given 8 kg grass hay daily and free access to a block with 20% crude protein including 2.13% urea. Mares in another group were given a concentrate mixture with 13% protein and 7 kg lucerne hay daily. The first group ate 0.83 kg protein and 0.05 kg urea daily and the second 1.44 kg protein. Hair and blood measurements were taken as estimates of the protein status of the mare. Hair follicle bulb widths were significantly larger for the mares getting the protein block. Hair bulb lengths, bulb neck widths and albumin:globulin ratios were 4.75 mm, 0.94 mm and 0.43:1 with the protein block and 4.68 mm, 0.60 mm and 0.32:1 for the group given concentrates. There was no significant difference in blood glucose , globulins, total protein or albumin:globulin ratios from foals of either group. Urea nitrogen in blood was significantly more in foals from the mares given concentrates. 13 ref.

2/AB/25 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

02789626 EMBASE No: 1984008585
Adrenal androgenic female-pattern alopecia: Sex hormones and the balding woman
Kasick J.M.; Bergfeld W.F.; Steck W.D.; Gupta M.K.
Dep. Dermatol., Cleveland Clin. Found., Cleveland, OH 44106 United States
Cleveland Clinic Quarterly (CLEVELAND CLIN. Q.) (United States) 1983, 50/2 (111-122)
CODEN: CCQUA
DOCUMENT TYPE: Journal
LANGUAGE: ENGLISH

Nineteen white women (age range, 18-37 years) with a distinct pattern of diffuse alopecia, characterized by retention of the frontotemporal hairline and progressive loss of central scalp hair, were evaluated. The serum adrenal androgen dehydroepiandrosterone-sulfate (DHEAS) ranged from 2.2 to 5.8 mug/ml (mean, 3.9 +/- 1.1 mug/ml). The normal female range is 0.3 to 3.2 mug/ml (mean, 2.0 +/- 0.7 mug/ml). All women had a normal total serum testosterone level . Of two women with elevated levels of serum prolactin, one had a pituitary adenoma as revealed by computed tomography. Apparently, DHEAS is hydrolyzed to dehydroepiandrosterone (DHEA) and subsequently converted to more potent androgens. In the hair follicle , DHEA will inhibit glucose -6-phosphate dehydrogenase, a key enzyme of the pentose cycle that is essential for the synthesis of nucleic acids. The disruption of the growth of scalp hair may be due to this increased adrenal production as well as to the peripheral metabolism of DHEAS.

2/AB/26 (Item 2 from file: 73)
DIALOG(R)File 73:EMBASE

01117315 EMBASE No: 1978247374
Viable chimaeras produced from normal and parthenogenetic mouse embryos
Stevens L.C.; Varnum D.S.; Eicher E.M.
Jackson Lab., Bar Harbor, Me. 04609 United States
Nature (NATURE) (United Kingdom) 1977, 269/5628 (515-517)

CODEN: NATUA
DOCUMENT TYPE: Journal
LANGUAGE: ENGLISH

Parthenogenesis occurs spontaneously in about 10% of ovulated eggs of inbred strain LT/Sv mice and is experimentally inducible in other strains by various physical and chemical agents. The development of most parthenotes seems normal up to the expanded blastocyst stage. They implant in the uterus, but, for reasons unknown, are resorbed within a few days. Although they rarely survive to 8 d of gestation which they develop somites, heart muscle, amnion, and neuroepithelium. Parthenogenetic eight-cell embryos were obtained from Finf 1 hybrid females produced by mating females of the LT/Sv strain to males of the incipient recombinant inbred strain LTXBJ. Nearly all of the females of the LTXBJ recombinant strain have bilateral ovarian teratomas at 3 months of age. These teratomas are derived from parthenogenetically activated ovarian eggs. About 30% of their ovulated eggs undergo spontaneous parthenogenetic development. Inbred strain LT/Sv is homozygous for the alleles a, B(et), C, and Gpi-1(a) at the agouti, brown, albino, and glucose -phosphate-isomerase-1 loci, respectively. The evidence presented here shows that cells of parthenogenetic origin can survive and participate in normal organ formation. Since both parents of the normal embryo were albino, all of the pigment cells in the coat and irises of both chimaeras must have been derived from parthenogenetic embryos. Since the agouti pattern is determined by the genotype of the hair follicle cells, the presence of agouti hairs in the male chimaera indicates that some of these cells originated from the parthenogenetic member. Finally, the presence in the male chimaera of LT/Sv strain-specific GPI shows that red blood cells were derived from parthenogenetic embryos of the chimaera. Although our preliminary results indicate that parthenogenetic cells are capable of differentiating normally in combination with normal cells, it is still not clear why parthenotes cannot survive to term in utero in strain LT/Sv mice.

2/AB/27 (Item 1 from file: 94)
DIALOG(R)File 94:JICST-EPlus

01489180 JICST ACCESSION NUMBER: 92A0369671 FILE SEGMENT: JICST-E
Relationship among Natures of Scalp Skin, Hair Follicle and Hair Shaft in Young Females.
KURODA HIDEO (1); YOSHIHAMA KEIICHIRO (1); SASAGAWA MITSUKO (1); SUZUKI MASAMI (1)
(1) Pola Chemical Industries, Inc., Yokohama Lab.
Nippon Keshohin Gijutsusha Kaishi(Journal of SCCJ), 1991, VOL.25,NO.2, PAGE.134-139, FIG.4, TBL.4, REF.3
JOURNAL NUMBER: S0078ACR ISSN NO: 0387-5253
UNIVERSAL DECIMAL CLASSIFICATION: 591.176.05+591.477 665.58
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: This paper reports the relationships between various parameters obtained from measurements on scalp skin, hair follicle and hair shaft in young females (13-28 years old, n=37). Parameters measured are; (1) sebum contents (2) surface temperature (3) water contents (4) stratum corneum cell area, as to scalp skn; (5) glucose -6-phosphate dehydrogenas(G6PDH) (6) transglutaminase (TGase), as to hair follicle enzyme activities; and (7) cross-sectioned area (8) cuticle scale edge pattern (9) tensile strength (10) limiting extension (11) frictional coefficient (12) amino acid composition (13) cystine

contents (14) polar lipids contents (cholesterol sulphate and ceramides), 15 contents of trace elements (Mg,K,Ca,Fe,Cu,Zn), as to hair shaft. The effects of hair care customs and hair treatments on the chemical and physical properties of hair were also investigated. As the results from statistical analysis of these various parameters, a positive correlation ($p<0.001$) between hair follicle G6PDH and cross-sectioned area of hair shaft, and a negative correlation ($p<0.01$) between G6PDH and cuticle scale edge pattern were elucidated. These facts suggest that G6PDH plays an important role in a formation of hair follicle size and structure as a reflection of mitotic activity. Another negative correlation ($p<0.01$) between frictional coefficient and TGase was detected, and this enzyme seemed to participate in the hardening of cuticular structures. Relationship between parameters for scalp skin and physico-chemical properties of hair shaft was not clear. Permanent waving of hair appeared to decrease cystine content, water content of hair tip, and to increase Mg and Ca contents. This implies the damaging of hair shaft caused by hair treatment. (author abst.)

2/AB/28 (Item 1 from file: 229)
DIALOG(R)File 229:Drug Info.

00999835 AHFS NO: 08.22 AHFS CLASS: Quinolones
SUBFILE: AHFS Drug Information
MONOGRAPH TITLE: Lomefloxacin Hydrochloride
GENERIC NAME: Lomefloxacin Hydrochloride
CHEMICAL NAME: 98079-51-7
SYNONYMS: NY 198; SC-47111
INVESTIGATIONAL NO: NY 198; SC-47111
BRAND NAME/MANUFACTURER: Maxaquin/Unimed
CAS REGISTRY NO: 98079-51-7
Subsections: [3224]_Lower Respiratory Tract Infections; [3224]_Urinary Tract Infections; [3224]_Perioperative Prophylaxis; [3224]_Gonorrhea; [3574]_Administration; [3524]_Dosage; [3506]_Adult Dosage; [3506]_Duration of Therapy; [3564]_Dosage in Renal and Hepatic Impairment; [3604]_Dermatologic and Sensitivity Reactions; [3604]_Nervous System Effects; [3604]_GI Effects; [3606]_Effects on GI Flora; [3604]_Cardiovascular Effects; [3604]_Hepatic Effects; [3604]_Hematologic Effects; [3604]_Musculoskeletal Effects; [3604]_Ocular Effects; [3604]_Genitourinary and Renal Effects; [3604]_Respiratory Effects; [3604]_Other Adverse Effects; [3644]_Precautions and Contraindications; [3644]_Pediatric Precautions; [3644]_Geriatric Precautions; [3664]_Mutagenicity and Carcinogenicity; [3654]_Pregnancy, Fertility, and Lactation; [3404]_Lomefloxacin Hydrochloride

2/AB/29 (Item 2 from file: 229)
DIALOG(R)File 229:Drug Info.

00999803 AHFS NO: 10.00 AHFS CLASS: Antineoplastic Agents
SUBFILE: AHFS Drug Information
MONOGRAPH TITLE: Asparaginase
GENERIC NAME: Asparaginase
SYNONYMS: L-Asparaginase; L-Asparagine Amidohydrolase; Colaspase
BRAND NAME/MANUFACTURER: Elspar/Merck A-ase; ASN-ase
CAS REGISTRY NO: 9015-68-3
Subsections: [3224]_Acute Lymphocytic Leukemia; [3214]_Other Uses; [3574]_Reconstitution and Administration; [3456]_IV Injection or Infusion;

[3456]_IM Injection; [3524]_Dosage; [3506]_Acute Lymphocytic Leukemia; [3506]_Dosage Modification for Toxicity; [3514]_Intradermal Sensitivity Testing and Desensitization; [3624]_Dermatologic and Sensitivity Reactions; [3604]_Hepatic Effects; [3604]_Hematologic Effects; [3604]_Renal Effects; [3604]_Pancreatic Effects; [3604]_Nervous System Effects; [3604]_GI Effects ; [3604]_Cardiovascular Effects; [3604]_Other Adverse Effects; [3644]_Precautions and Contraindications; [3664]_Mutagenicity and Carcinogenicity; [3654]_Pregnancy, Fertility, and Lactation; [3814]_Absorption; [3824]_Distribution; [3834]_Elimination; [3104]_Chemistry; [3304]_Stability; [3404]_Asparaginase

2/AB/30 (Item 3 from file: 229)
DIALOG(R)File 229:Drug Info.

00999757 AHFS NO: 10.00 AHFS CLASS: Antineoplastic Agents
SUBFILE: AHFS Drug Information
MONOGRAPH TITLE: Pegaspargase
GENERIC NAME: Pegaspargase
SYNONYMS: PEG-L-asparaginase
BRAND NAME/MANUFACTURER: Oncaspar/Enzon
CAS REGISTRY NO: 130167-69-0
Subsections: [3224]_Acute Lymphocytic Leukemia; [3574]_Administration; [3524]_Dosage; [3506]_Acute Lymphocytic Leukemia; [3604]_Hypersensitivity, Dermatologic, and Local Reactions; [3604]_Hepatic Effects; [3604]_Hematologic Effects; [3604]_Pancreatic and Metabolic Effects; [3604]_Gastrointestinal Effects; [3604]_Nervous System Effects; [3604]_Cardiovascular Effects; [3604]_Musculoskeletal Effects; [3604]_Renal Effects; [3604]_Other Effects; [3644]_Precautions and Contraindications; [3644]_Pediatric Precautions; [3644]_Geriatric Precautions; [3664]_Mutagenicity and Carcinogenicity; [3654]_Pregnancy, Fertility, and Lactation; [3404]_Pegaspargase

2/AB/31 (Item 1 from file: 351)
DIALOG(R)File 351:Derwent WPI

013178732
WPI Acc No: 2000-350605/200030
XRAM Acc No: C00-106644
XRPX Acc No: N00-262704
Novel method of enhancing optical transparency of biological tissue covered by surface barrier by bypassing the barrier, e.g. by abrasion, useful for treating skin appendages and detecting blood glucose
Patent Assignee: NEMATI B (NEMA-I)
Inventor: NEMATI B
Number of Countries: 029 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200024454	A1	20000504	WO 99US23526	A	19991012	200030	B
AU 9964228	A	20000515	AU 9964228	A	19991012	200039	
EP 1045717	A1	20001025	EP 99951881	A	19991012	200055	
			WO 99US23526	A	19991012		
US 6219575	B1	20010417	US 98177348	A	19981023	200123	
US 20010008959	A1	20010719	US 98177348	A	19981023	200143	
			US 2001777639	A	20010207		
US 20010009984	A1	20010726	US 98177348	A	19981023	200146	
			US 2001777640	A	20010207		

Priority Applications (No Type Date): US 98177348 A 19981023; US 2001777639 A 20010207; US 2001777640 A 20010207
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200024454	A1	E	46	A61N-001/30	
Designated States (National): AU BR CA CZ FI JP MX NO SG					
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GR IE IT LU MC NL PT SE					
AU 9964228	A			A61N-001/30	Based on patent WO 200024454
EP 1045717	A1	E		A61N-001/30	Based on patent WO 200024454
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
US 6219575	B1			A61N-001/30	
US 20010008959	A1			A61N-001/30	Div ex application US 98177348 Div ex patent US 6219575
US 20010009984	A1			A61N-001/30	Div ex application US 98177348 Div ex patent US 6219575

Abstract (Basic): WO 200024454 A1
Abstract (Basic):

NOVELTY - Enhancing the optical transparency of biological tissue (I) covered by a surface permeability barrier comprising bypassing the barrier to deliver a clarifying agent to the covered tissue, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) performing a diagnostic or therapeutic procedure on a tissue comprising the method of (I) and performing the procedure while transparency is enhanced; and

(2) apparatus for enhancing the transparency of a tissue comprising a means of bypassing a surface permeability barrier, a means of delivering a clarifying agent, and a means of delivering light to and/or collection of light from the tissue.

ACTIVITY - Dermatological.

MECHANISM OF ACTION - None given.

USE - The methods are useful for introducing a chemical to a target tissue to increase its optical transmission on a transient basis. This may be used to treat skin appendages (sebaceous glands, hair follicles , of eccrine glands), subcutaneous fat, or pigmented or vascular lesions of the skin. The methods may be also be used for diagnostic purposes using light microscopy, confocal microscopy, optical coherence tomography, fluorescence spectroscopy, reflectance spectroscopy, or non-invasive analyte sensing, especially for glucose or cholesterol measurement in interstitial tissues or blood. It may be used for optical tomography of biological tissue, or the photodynamic detection of abnormal tissue.

ADVANTAGE - Light transmission through biological tissue can be improved by 500-600 %, compared with only 3-4 percent using the topical administration of immersion fluids.

DESCRIPTION OF DRAWING(S) - The figure shows diagrammatically a system for bypassing a surface barrier of tissue, administering a topical chemical and delivery of light.

pp; 46 DwgNo 6/9

2/AB/32 (Item 2 from file: 351)
DIALOG(R)File 351:Derwent WPI

010454858
WPI Acc No: 1995-356177/199546
XRAM Acc No: C95-156139

XRPX Acc No: N95-264669
Rapid, objective and accurate measurement of tonic effect - by adding sample to experimental animal cultured skin cells and measuring amt. of mRNA coding glucose-6-phosphate dehydrogenase
Patent Assignee: POLA CHEM IND INC (POKK)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 7244037	A	19950919	JP 9432485	A	19940302	199546	B

Priority Applications (No Type Date): JP 9432485 A 19940302
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 7244037	A		4	G01N-033/15	

Abstract (Basic): JP 7244037 A
The method comprises adding a sample to cultured cells from the skin or hair follicle of an experimental animal and measuring the amt. of the manifestation of mRNA coding glucose -6-phosphate dehydrogenase in the cells.
Pref. the amt. of the manifestation is measured by hybridisation of the mRNA with an oligonucleotide probe having a sequence complementary with a part of the sequence of the mRNA.
Dwg.0/0

2/AB/33 (Item 1 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)

03867560 References: 37
TITLE: THE ONTOGENESIS OF SKIN AND ORGAN CHARACTERISTICS IN THE SYRIAN GOLDEN HAMSTER .3. ONTOGENETIC AND INTRASPECIFIC ALLOMETRY FOR STRAIN AND SEX AS WELL AS BODY WEIGHT-DEPENDENT AND AGE-DEPENDENT CORRELATIONS
AUTHOR(S): MILITZER K; BUTTNER D; MOOG E
CORPORATE SOURCE: UNIV ESSEN KLINIKUM,ZENT TIERLAB,HUFELANDSTR 55/W-4300 ESSEN 1//GERMANY/ (Reprint); UNIV ESSEN GESAMTHSCH,CENT ANIM LAB/W-4300 ESSEN 1//GERMANY/
PUBLICATION: EXPERIMENTAL AND TOXICOLOGIC PATHOLOGY, 1992, V44, N3 (JUN), P 113-124
GENUINE ARTICLE#: JF465
LANGUAGE: ENGLISH DOCUMENT TYPE: ARTICLE

ABSTRACT: The allometric relations, i.e. bodily characteristics, body weight-relationships as well as age-dependent organ and biochemical data were studied in a total of 464 golden hamsters of both sexes of an acromelanic white inbred and agouti coloured outbred strain. In the 3 age sections studied (I = day 1 - 20, II = day 25 - 100, III = day 110 - 365) the body weight- and age-dependent relations were found to be altered between and within the various characteristics. The body weight correlations predominated in thc case of organ weights and skin muscle thickness. By contrast, age correlations were seen above all in the skin compartments with cyclic growth. hair follicle density and reticular thickness in the age sections I and II. Papillary thickness showed a positive relation to body weight and age after weaning. but no long-term relations were observed with both plasma insulin and blood glucose levels .

The allometric behaviour of skin compartments could be explained particularly by thermoregulatory and "geometric" similarities and that of the organs by metabolic and other similarities.

Most sex and strain differences in the absolute data, except for the kidney and adrenal weights, disappeared on allometric analysis and were thus mainly due to differences in body weight.

For long-term toxicological investigations, the documentation of age and body weight as well as the determination of ontogenetic allometry is a "must".
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